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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, PHILIP C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/055,865

Applicant(s)

ORMAN ET AL.

Examiner

Philip C Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 14-21 is/are rejected.
- 7) ☒ Claim(s) 12 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>1/23/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are presented for examination and claim 22 is withdrawn from consideration.
2. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Restriction/Election

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, drawn to claims 1-21, which claim a system for takeover and establish of a Transport Control Protocol connection, classified in class 709, subclass 227.

Group II, drawn to claim 22, which claim an application interface allowing an application to associate a byte of data to be sent on a Transport Control Protocol connection, classified in class 719, subclass 328.

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4. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as an application interface allowing an application to associate a byte of data to be sent on a Transport Control Protocol connection; this is a patentably distinct feature not found in invention I. See M.P.E.P. § 806.05 (d)

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, search for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Joseph P. Mehrle on 3/3/05 a provisional election was made without traverse to prosecute the invention of group I, claims 1-21. Affirmation of this election must be made by applicants in replying to this office action. Claim 22 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections – 35 USC 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 9-10 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashyap, U.S. Patent Application Publication 2003/0014684 in view of Webber, U.S. Patent Application Publication 2003/0039209 (hereinafter Webber).

9. As per claims 1, 9 and 21, Kashyap taught the invention substantially as claimed comprising:

- a structure for the first and second servers adapted to access shared state information with respect to the connection (page 1, paragraphs 3 and 56);
- a device for storing a data packet sequence number of an acknowledgement byte received by the second server and a sequence number related to the shared state information (page 3, paragraph 61); and
- a device for recreating the connection within the second server based upon the sequence numbers (page 3, paragraph 61).

10. Kashyap did not teach comparing a data packet sequence number of an acknowledgement byte received by the second server with a sequence number stored in the shared state information with respect to the connection. Webber taught a method of comparing a data packet sequence number of an acknowledgement byte received by the

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server with a sequence number stored with respect to the connection (page 3, paragraph 23).

11. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap and Webber because Webber's method of comparing a data packet sequence number of an acknowledgement byte received by the server with a sequence number stored with respect to the connection would increase the efficiency of Kashyap's system by allowing retransmission of packet beginning with the skipped packet as detected in the sequence number of the acknowledgement (page 2, paragraph 18).

12. As per claims 2 and 10, Kashyap and Webber taught the invention substantially as claimed in claims 1 and 9 above. Webber further taught wherein the device for recreating includes an application program interface (API) for communicating with a plurality of protocols in the second server and providing a ready signal (e.g. successful completion code) in response to a successful comparison by the device for comparing (page 3, paragraph 23).

13. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap and Webber because Webber's method of providing a ready signal in response to a successful comparison would increase the alertness of Kashyap's system by providing a notification for retransmission of packet beginning with the skipped packet.

14. As per claim 20, Kashyap and Webber taught the invention substantially as claimed in claim 9 above. Kashyap further taught wherein the recreating includes assignment of the second server to takeover the connection based upon a detecting a failure or overburdening of the first server (page 1, paragraph 8).

15. Claims 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashyap, Webber in view of "Official Notice".

16. As per claims 8 and 19, Kashyap and Webber taught the invention substantially as claimed in claims 1 and 9 above. Although, Kashyap taught wherein the shared state information includes an identifier of the first server, the time at which the state information is gathered, a source IP address, a source TCP port, a destination IP address, a destination TCP port, an application layer protocol with respect to the connection, an initial packet sequence number for the source, an initial packet sequence number for the destination, a current packet sequence number for the source, a current packet sequence number for the destination, and other implementation-specific information (page 2, paragraph 22; page 3, paragraph 56-page 4, paragraph 70), however, Kashyap did not specifically detailing other type of shared state information such as identifier for the object. "Official Notice" is taken for the concept of including other type of shared state information is known and accepted in the art. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include shared state information such as identifier for the object because by doing so it would increase the

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system flexibility by including different implementation-specific information depending on the type of implementation (page 4, paragraph 70).

17. Claims 3, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashyap and Webber in view of Fisher, U.S. Patent 5,828,569 (hereinafter Fisher).

18. As per claims 3 and 11, Kashyap and Webber taught the invention substantially as claimed in claims 1 and 9 above. Kashyap and Webber did not teach a connection checkpoint program interface. Fisher taught comprising a connection checkpoint application program interface (API) for communicating with each of a plurality of protocols in the first server and for causing each of the plurality of protocols to append relevant state information to a data block passed to each of the plurality of protocols with respect to the connection so as to provide the relevant state information to the shared state information (col. 2, lines 26-29; col. 3, lines 35-44; col. 3, line 62-col. 4, line 15).

19. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap, Webber and Fisher because Fisher's teaching of connection checkpoint application program interface would increase the reliability of Kashyap's and Webber's systems by providing relevant state information during takeover of a connection, so that no connections between server and client application are lost (col. 1, lines 20-23).

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20. As per claim 14, Kashyap, Webber and Fisher taught the invention substantially as claimed in claim 11 above. Fisher further taught comprising a network protocol stack including the plurality of protocols and checkpoint information based upon the connection checkpoint, and using an application program interface (API) on the second server to notify each of the protocols in the network stack to use the checkpoint information to thereby create an “unready” connection (col. 5, line 49-col. 6, line 15).

21. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap, Webber and Fisher because Fisher’s teaching of using the checkpoint information to create an “unready” connection would increase the reliability of Kashyap’s and Webber’s systems by allowing checkpoint information to be used during takeover of a connection, so that no connections between server and client application are lost (col. 1, lines 20-23).

22. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashyap, Webber and Fisher in view of “Official Notice”.

23. As per claims 4 and 15, Kashyap, Webber and Fisher taught the invention substantially as claimed in claims 3 and 11 above. Although, Kashyap, Webber and Fisher taught wherein the connection checkpoint API is adapted to bundle connection information with respect to a protocol having a plurality of related connections, the related connections involving both TCP protocol (see Kashyap, page 3, paragraph 56-page 4, paragraph 63) and other network protocol (page 6, paragraph 106), however,

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Kashyap, Webber and Fisher did not specifically detailing the other network protocol is User Datagram Protocol. "Official Notice" is taken for the concept of User Datagram Protocol (UDP) is known and accepted in the art. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include User Datagram Protocol because by doing so it would increase the field of use in their system.

24. Claims 5-7 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashyap, Webber and Fisher in view of "Official Notice" as applied to claims 4 and 5 above, and in further view of Syvanne et al, U.S. Patent Application Publication 2002/0112189 (hereinafter Syvanne).

25. As per claims 5 and 16, Kashyap, Webber and Fisher did not teach a protocol having a control connection and a data connection. Syvanne taught wherein the protocol having a plurality of related connections comprises a protocol having a control connection and a data connection (page 2, paragraph 10).

26. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap, Webber, Fisher and Syvanne because Syvanne's teaching of a protocol having a control connection and a data connection (e.g. File Transfer Protocol) would increase the field of use in their system.

27. As per claims 6 and 17, Kashyap, Webber, Fisher and Syvanne taught the invention substantially as claimed in claims 5 and 16 above. Syvanne further taught

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wherein one or more of the data connections are carried over UDP or another non-TCP transport protocol (page 2, paragraph 10).

28. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kashyap, Webber, Fisher and Syvanne for the reason set forth in claim 5 above.

29. As per claims 7 and 18, Kashyap, Webber, Fisher and Syvanne taught the invention substantially as claimed in claims 6 and 17 above. Kashyap further taught wherein data packets on one or more of the data connections are adapted to be transmitted to one or more IP-multicast groups (page 3, paragraph 50).


CONCLUSION

30. A shortened statutory period for reply to this Office action is set to expire **THREE MONTHS** from the mailing date of this action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John

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Follansbee can be reached on (571)272-3964. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)350-6121.

P.L.



JOHN FOLLANSBEE
ADVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100